COMPRESSIVE STRENGTH
OF
CYLINDRICAL CONCRETE SPECIMENS
AASHTO T 22

APPARATUS

[ ] Testing machine has a verification of calibration within the last 13 months
[ ] Protective Cage

PROCEDURE -- SULFUR MORTAR CAPS

[ ] Diameter of test specimen determined to nearest 0.01 in. by averaging two diameters measured at right angles to each other at mid-height of specimen (shall not differ by more than 2%)
[ ] Length of test specimen determined to nearest 0.05 x diameter when length to diameter ratio is less than 1.8 or more than 2.2
[ ] Test specimens kept moist during the period between removal from moist storage and testing
[ ] Lower bearing block placed, with hardened face up, on the table or platen of testing machine directly under the upper bearing block
[ ] Faces of both bearing blocks and test specimen wiped clean, and test specimen placed on the lower bearing block
[ ] Load indicator set to zero. If indicator is not properly set to zero, indicator is adjusted.
[ ] As spherically-seated block is brought to bear on the specimen, movable portion of block is rotated gently by hand so that uniform seating is obtained.
[ ] Load applied continuously and without shock
[ ] For screw-type testing machines, the moving head rate of movement is adjusted to achieve a stress rate of 35 ±7 psi/s
[ ] For hydraulically-operated testing machines, load applied at a rate of movement corresponding to a stress rate on the specimen of 35 ±7 psi/s
[ ] Rate of movement maintained at least during the latter half of anticipated loading phase of testing cycle
[ ] No adjustment in rate of movement of platen made at any time while specimen is yielding rapidly immediately before failure
[ ] Load applied until test specimen fails
[ ] Maximum load carried by test specimen during test recorded. Type of failure and appearance of concrete noted.
[ ] Capp thickness measured and does not exceed limits
[ ] Compressive strength of test specimen determined to nearest 10 psi as follows:

$$\text{Compressive Strength} = \frac{\text{Maximum Load}}{\text{Average Cross - Sectional Area}}$$

[ ] Compressive strength corrected when specimen length-to-diameter ratio is equal to or less than 1.75 by multiplying by a correction factor as follows:

L/D:	1.75	1.50	1.25	1.00
Factor:	0.98	0.96	0.93	0.87

(Values not given in table are determined by interpolation)

PROCEDURE -- NEOPRENE CAPS

[ ] Each neoprene cap used to test no more than 100 cylinders
[ ] Same surface of neoprene cap used for all tests with that cap
[ ] Concrete cylinder ends have no depressions deeper than 0.12 in.
[ ] Perpendicularity is verified for compliance on both ends of specimen
    [ ] 6 in.x 12 in. cylinders:0.12 in. at 12 in.
    [ ] 4 in.x 8 in.cylinders 0.08 in. at 8 in.
[ ] 6 in. diameter cylinders do not differ in height by 0.2 in. for any two measurements
[ ] Extrusion controllers, containing neoprene caps, placed on the top and bottom surfaces of test specimen
[ ] Axis of test specimen aligned with center of upper bearing block
[ ] No loose particles trapped between test specimen and neoprene caps or between the bearing surfaces of extrusion controllers and bearing blocks
[ ] Procedure for testing same as procedure for testing cylinders with sulfur mortar caps except as noted within this section

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Acceptance Technician

_____ _____
INDOT Date

Comments _____

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